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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/905,174

Applicant(s)

DVORAK ET AL.

Examiner

Beth Van Doren

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 12-26, 57-61 and 65-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 12-26, 57-61 and 65-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a Final Office action in response to communications received 10/05/07. Claims 1, 5-11, and 62-64 have been canceled. Claims 65-67 have been added. Claims 2-4, 12-23, 26, 57-61 have been amended. Claims 2-4, 12-26, 57-61, and 65-67 are pending.

Response to Amendment

2. Applicant's amendments to claims 58 and 60-61 and cancellation of claims 63-64 are sufficient to overcome the claim objections set forth in the previous office action.

3. Applicant's cancellation of claim 62 is sufficient to overcome the 35 USC 112, second paragraph, rejections set forth in the previous office action. However, new 35 USC 112, second paragraph, rejections have been set forth below in light of the current amendments.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-4, 12-26, 57-58, and 65-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 65 recites "a computer-implemented method of responding to *a disruptive event* that impacts demand" and "wherein *the disruptive event*". Claim 65 then goes on to recite "describe disruptive events" and "the disruptive events". It is not specifically clear if the claim is referring to one disruptive event or multiple disruptive events, since the claim refers to such event both singularly and in the plural. It is further unclear what is occurring if the claim is

meant to switch between the singular and plural of the term disruptive event. Looking to the preamble, it seems that the claim is directed to responding to a singular event. Therefore, the event has been construed in the singular. Clarification is required.

Claim 12 recites “wherein the disruptive events include both disruptive events that have not yet taken place and disruptive events that have already taken place”. However, it is not clear what the antecedent basis is for this claim based on the discussion above with respect to claim 65. Clarification is required. For examination purposes, the claim has been construed as the event being singular: wherein the disruptive event is a disruptive event that has not yet taken place or has already taken place.

Claims 2-4, 13-26, 57-58 depend from claim 65 and therefore have the same deficiencies.

Claims 66-67 both recite “wherein the disruptive events”. However, it is not clear what the antecedent basis is for this claim based on the discussion above with respect to claim 65. Clarification is required. For examination purposes, the claim has been construed as the event being singular: wherein the disruptive event’s start date is, for claim 66, and wherein the disruptive event is a future event, for claim 67.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 59 is rejected under 35 U.S.C. 102(b) as being anticipated by Fields et al. (U.S. 5,459,656).

As per claim 59, Fields et al. teaches a computerized system for adjusting projected demand for a plurality of items a plurality of locations on an item-location basis, including:

a processor, memory coupled to the processor, and logic and resources operatively coupled to the memory and processor (See column 3, lines 13-50), the logic and resources adapted to:

maintain a calendar of past and future disruptive events that impacted or will impact demand for a particular item at a particular location, wherein the disruptive events have a start date and are either open ended or have a distant end date that is appropriately modeled by a step impact on sales history or projected demand (See figure 2A, column 3, lines 4-12 and line 60-column 4, line 20 and 30-42, column 7, lines 54-57, column 8, lines 11-20, wherein a disruptive event, such as a holiday, a sale, etc., is calendared using a start date, an end date and duration (which could be a day or number of days) and impact estimates that project effect on total demand. The impact of these events is shown on models by altered demand curves. See column 9, lines 35-51. The calendaring is performed using start dates. See also column 10, lines 10-15, which talk about location specific values in the calendaring); and

apply impact estimates (See column 2, lines 5-20, column 5, lines 1-7, and column 8, lines 1-20, wherein the impact estimates are applied to project demand or update historical demand data) to adjust the projected demand for the plurality of items at the plurality of locations, wherein the impact estimates for disruptive events that already have taken place are applied to sales history quantities used to project demand (See column 4, lines 60-67, column 8,

lines 1-5, column 9, lines 1-15, and column 10, lines 50-67, wherein the impact factors for the recent past are used to update the sales history quantities), and the impact estimates for disruptive events that have not yet taken place are applied to adjust the projected demand (See column 3, lines 54-66, column 4, lines 30-42, column 5, lines 1-7, and column 8, lines 10-30, wherein the impact factors for an event, such as a holiday, are used to adjust demand from normally occurring days (i.e. the difference between a normal Sunday and a promotional Sunday)).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-4, 12-19, 21, 23, 27, and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. 2002/0169657).

As per claim 65, Singh et al. teaches a computer-implemented method of responding to a disruptive event that impacts demand into the indefinite future for a plurality of items at one or more locations, including:

modeling with a data structure stored in computer readable memory a disruptive event that impact demand for a plurality of items at one or more selling locations (See figure 3, abstract, paragraphs 13, 20-4, 41, 52, which disclose using models to make demand predictions for items at locations or for locations. See figure 1, showing the locations. See paragraphs 17,

23, 86, which discuss disruptive events, including competitor actions such as price reductions or competitive products),

wherein the disruptive event, unlike a transitory promotional event, has an impact on the demand into the indefinite future for the plurality of items (see paragraphs 17, 23, 86, which discuss disruptive events, including competitor actions such as price reductions or competitive products) that is represented in the data structure by at least

a good identifier for a good and a selling location identifier for a selling location (See paragraph 41, which discloses an item numbers and a location where the item is sold);

a start date and no effective stop date (See paragraphs 17, 23, 41, 86, and 95-99, wherein the disruptive event is known to start and affect into the future, but does not have a stop date.

Competitor events are discussed, like new products),

at least a function that represents an impact estimate of disruption to demand for the good at the selling location beginning at the start date (See paragraphs 17, 27, 41, 55, 58, 80, 85-6, 103, which disclose functions for showing the impact of the event on demand for the good at the selling location. See also 95-99);

eliciting from a retail manager data to describe the disruptive event (See paragraphs 20-1, 26, 34, 41-2, and 73-4, wherein planners and users input data concerning date to use, causal factors, etc.);

forecasting unit inventory and unit sales at a per-item, per-location level for a forecasting cycle using the data structure to take into account the disruptive event (See paragraphs 23, 49, 58, 93 wherein sales and supply are forecast based on the impact of causal factors associated with the event. See paragraphs 17, 23, 86); and

generating, from results of the forecasting using the data structure consistently across analytical tools, analytical reports that support retailing activities (See paragraphs 12-13, 15-6, 21, 41-2, 102, wherein the results are output and used by the organization in retailing at locations).

However, while Singh et al. discloses the use of functions to show impact and linear relationships in forecasts and the use of linear regression (See paragraphs 55-6, 71), Singh et al. does not expressly disclose using a Step function.

Singh et al. discloses demand forecasting for disruptive events, such as competitors introducing a new product. Singh et al. performs these forecasts using algorithms and functions including statistics and regression. Examiner takes official notice that step functions are old and well known functions used to represent data over intervals. Since Singh et al. discusses considering demand patterns over time using different math algorithms, it would have been obvious to one of ordinary skill in the art at the time of the invention to include step functions in the analysis of Singh et al. in order to more accurately predict customer demand based on disruptive competitor events. See paragraphs 17, 23, 28, and 86 of Singh et al.

As per claim 66, Singh et al. teaches wherein the disruptive event's start date is prior to when the forecasting is carried out and the disruptive event is taken into account for historical data used as a basis for the forecasting (See paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period, and thus past disruptive data is used to adjust and forecast).

As per claim 67, Singh et al. teaches wherein the disruptive event is a future event when the forecasting is carried out and the disruptive event takes into account to adjust the projected

demand (See paragraphs 17, 23, 86, which discuss disruptive events, including competitor actions such as price reductions or competitive products. See paragraphs 17, 27, 41, 55, 58, 80, 85-6, 103, which disclose taking into account that the disruptive event will take place, which is shown in the forecasting. See also 95-99).

As per claim 2, Singh et al. discloses wherein the method accommodates impact estimates that can be both positive and negative (See paragraphs 55, 57-8, and 66, which include causal impact factors that are positive and negative).

As per claim 3, Singh et al. teaches wherein the impact estimates are factors multiplied by the sales history quantities for past disruptive events and by the projected demand for future disruptive events (For future disruptive events, see paragraphs 17, 23, 86, which discuss disruptive events of competitor actions such as price reductions or competitive products. See paragraphs 17, 27, 41, 55, 58, 80, 85-6, 103, which disclose taking into account that the disruptive event will take place, which is shown in the forecasting. See also 95-99. For past disruptive events, see paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period, and thus past disruptive data is used to adjust and forecast).

As per claim 4, Singh et al. discloses wherein the impact estimates cause quantities to be added to the sales history quantities and the projected demand (For future disruptive events, see paragraphs 17, 23, 86, which discuss disruptive events of competitor actions such as price reductions or competitive products. The forecast is adjusted accordingly. See paragraphs 17, 27, 41, 55, 58, 80, 85-6, 103, which disclose taking into account that the disruptive event will take place, which is shown in the forecasting. See also 95-99. For past disruptive events, see

paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period, and thus past disruptive data is used to adjust and forecast. The forecast is adjusted accordingly). However, Singh et al. does not expressly disclose that the impact estimates themselves are specifically added to the sales history quantities and the projected demand.

Singh et al. discloses demand forecasting for disruptive events, such as competitors introducing a new product. Singh et al. performs these forecasts using algorithms and functions that cause additions and adjustments to past sales data. The impact estimate of Singh et al. is more multiplicative in nature, but could be represented by the quantity added or subtracted in the number of items demanded and sold. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the impact estimates represent the quantity added to the historic sales data in order to more accurately predict customer demand based on disruptive competitor events. See paragraphs 17, 23, 28, and 86 of Singh et al.

As per claim 12, Singh et al. teaches wherein the disruptive event is a disruptive event that has not yet taken place or has already taken place (See paragraphs 17, 23, 86, which describes expected disruptive events).

As per claim 13, Singh et al. teaches wherein a plurality of impact estimates for the disruptive event is combined multiplicatively (See at least paragraphs 69-72, which describes an MLR algorithm, which includes the use of multiplication).

As per claim 14, Singh et al. teaches wherein a plurality of impact estimates for the disruptive event is combined additively (See at least paragraphs 69-72, which describes an MLR algorithm, which includes the use of addition).

As per claim 15, Singh et al. teaches wherein a plurality of impact estimates for the disruptive event are combined by a combination of addition and multiplication (See at least paragraphs 69-72, which describes an MLR algorithm, which includes the use of addition and multiplication).

As per claim 16, Singh et al. teaches wherein a plurality of impact estimates for the disruptive event are applied beginning with a most recent disruptive event (See paragraphs 66, 83, 85, which discloses using more recent historical data first as opposed to older data).

As per claim 17, Singh et al. teaches wherein a plurality of impact estimates for the disruptive event are applied beginning with a most recent disruptive event (See paragraphs 66, 83, 85, which discloses using more recent historical data first as opposed to older data).

However, Singh et al. does not expressly disclose that the impact estimates are applied beginning with a most distant disruptive event.

Singh et al. discloses a system wherein disruptive events (competitor actions, like introducing new products) have impact estimates that are used to project sales. Singh et al. teaches applying impact estimates based on the disruptive event, wherein the time from which the data was obtained is considered then the data is applied. Therefore, the user of the system of Singh et al. is able to choose to weight newer data first. Examiner takes official notice that it is old and well known to allow an operator of a prediction or statistical system to choose which data to use and in what manner. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the more distant impact estimates first in order to make more accurate projections by allowing the user to choose what specifically the user needs projected.

As per claim 18, Singh et al. teaches applying a plurality of forecasting techniques to the sales history quantities to derive a plurality of projected demand estimates (See abstract, paragraph 41, which refers to a plurality of models/algorithms being used).

As per claim 19, Singh et al. teaches applying a probabilistic forecast technique to the sales history quantities to derive the projected demand (See paragraphs 21, 41, 48)

As per claim 21, Singh et al. teaches applying a regression forecast technique to the sales history quantities to derive the projected demand (See at least paragraphs 56, 60, 62, 69-72).

As per claim 23, Singh et al. teaches evaluating an actual impact of at least one particular disruptive event that has already taken place at least a predetermined period prior to adjustment of the projected demand, and adjusting the impact estimates based on the evaluated actual impact of the disruptive event (See paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period).

As per claim 57, Singh et al. teaches wherein disruptive event represents cannibalization of sales or demand for a first item across multiple locations by introduction of a second item at the locations (See figure 3, abstract, paragraphs 13, 20-4, 41, 52, which disclose using models to make demand predictions for items at locations or for locations. See figure 1, showing the locations of the organization. Competitor locations are also discussed, and therefore locations where the two items are sold include the combination of the competitor and the organization. See paragraphs 17, 23, 86, which discuss disruptive events, including competitor actions such as competitive products).

10. Claims 4, 20, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. 2002/0169657) in view of Fields et al. (U.S. 5,459,656).

As per claim 4, Fields et al. discloses wherein the impact estimates cause quantities to be added to the sales history quantities and the projected demand (See column 4, lines 1-14, column 6, lines 20-35, column 8, lines 20-32, wherein the impact estimates add demand quantity to the historic sales date, such as adding ten percent of items to the sales history for the day after thanksgiving). However, Fields et al. does not expressly disclose that the impact estimates themselves are specifically added to the sales history quantities and the projected demand.

Fields et al. discloses adjusting past sales files based on impact values, where the past sales are increased or decreased by a percentage, causing an addition or decrease in the number of items demanded and sold. Therefore, the impact estimate of Fields is more multiplicative, but could be represented by the quantity added or subtracted in the number of items demanded and sold. Therefore. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the impact estimates represent the quantity added to the historic sales data in order to more efficiently produce targeted totals of demand for specific business days, such as disruptive days (promotions, sales, days near holidays, seasonal, etc.). See column 2, lines 5-20, and column 4, lines 1-30.

As per claim 20, Singh et al. teaches applying a probabilistic forecast technique to the sales history quantities to derive the projected demand (See paragraphs 21, 41, 48). However, Singh et al. does not expressly disclose and Fields et al. teaches applying a segmented probabilistic forecast technique to the sales history quantities to derive the projected demand (See column 3, line 60-column 4, line 20, column 7, lines 2-25, column 8, lines 10-30 and line

55-column 9, line 15, wherein projections of probable demand are calculated using past sales history. The days are divided into segmented intervals, wherein each interval has a projection)

Both Singh et al. and Fields et al. disclose systems wherein disruptive events have impact estimates that are used to project sales. Singh et al. specifically discloses demand forecasting for disruptive events, such as competitors introducing a new product. Singh et al. performs these forecasts using algorithms and functions including statistics and regression, including the use of probabilistic forecast techniques. Fields et al. teaches applying a segmented probabilistic forecast technique to the sales history quantities to derive the projected demand. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a segmented probabilistic forecast technique on the data of Singh et al. in order to more accurately predict customer demand based on disruptive competitor events. See paragraphs 17, 23, 28, and 86 of Singh et al.

As per claims 24, Singh et al. teaches evaluating the impact of at least one particular disruptive event that has already taken place, wherein the evaluation function is user initiated and time period based (See paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period). However Singh et al. does not expressly disclose that the user initiated tuner (with a time period) includes that the user set the time period.

Fields et al. teaches wherein the predetermined period is user selected (See column 4, lines 60-67, column 5, lines 1-6, 14-25, and 59-67, and column 6, lines 5-22, wherein the user authors the files, the files specifying the predetermined interval for updating the projected demand).

Both Singh et al. and Fields et al. disclose systems wherein disruptive events have impact estimates that are used to project sales. Singh et al. specifically discloses demand forecasting for disruptive events, such as competitors introducing a new product. Singh et al. discloses evaluating the actual impact of a disruptive event to adjust the forecasts using a user initiated tuner that compares data over time periods. Fields et al. specifically discloses that this time period is user set. It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the user to set the time period used by the system in order to increase the ability of a planner or user to have control over the system and the forecasts it produces. See at least paragraphs 73-4 of Singh et al.

As per claims 25-26, Singh et al. teaches evaluating the impact of at least one particular disruptive event that has already taken place, wherein the evaluation function is user initiated and time period based (See paragraphs 20, 25, 74, 78, 83, 90, and 94, wherein actual impact data is used to adjust the forecast over a time period). However Singh et al. does not expressly disclose that the time period used is measured in days of increments of less than days.

Fields et al. teaches wherein the predetermined period is measured in days (See column 4, lines 60-67, column 5, lines 1-6, 14-25 and 59-67, and column 6, lines 5-22, wherein the predetermined period is weeks or days) and wherein the predetermined period is measured in time increment of less than a day (See column 4, lines 60-67, column 5, lines 1-6, 14-25 and 59-67, and column 6, lines 5-22, wherein the predetermined period is an interval of a day).

Both Singh et al. and Fields et al. disclose systems wherein disruptive events have impact estimates that are used to project sales. Singh et al. specifically discloses demand forecasting for disruptive events, such as competitors introducing a new product. Singh et al. discloses

evaluating the actual impact of a disruptive event to adjust the forecasts using data over time periods. Fields et al. specifically discloses that this time period is a day or an increment less than a day. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a time period of a day or less than a day in order to more accurately predict customer demand based on disruptive competitor events and to be able to sufficiently obtain an early warning of potential problems. See paragraphs 17, 23, 28, and 86 of Singh et al

11. Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. 2002/0169657) in view of Crosswhite (U.S. 6,611,726).

As per claim 22, Singh et al. teaches applying a variety of models and forecast technique to the sales history quantities to derive the projected demand (See at least paragraphs 56, 60, 62, 69-72). However, Singh et al. does not expressly disclose applying an ARIMA forecast technique to the sales history quantities.

Crosswhite discloses using Autoregressive Integrated Moving Average (ARIMA) methods to predict future product demand from historical demand data (See column 3, lines 39-60, which discusses ARIMA).

Both Singh et al. and Crosswhite disclose forecasting demand applying forecasting techniques to historical demand data. It would have been obvious to one of ordinary skill in the art at the time of the invention to use ARIMA to project demand in order to more accurately forecast product demand from historical demand data by utilizing a time-series forecasting method that uses data collected at evenly spaced intervals. See column 3, lines 39-55, and

column 4, lines 9-15, of Crosswhite that discusses the technique and benefits of ARIMA time series forecasting.

12. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. 2002/0169657) in view of Ghosh et al. ("Formulating Retail Location Strategy in a Changing Environment").

As per claim 58, Singh et al. teaches wherein disruptive event represents a competing action of a competitor (See paragraphs 17, 23, 86). However, Singh et al. does not expressly disclose that the competing action is the opening of a store that impacts demand.

Ghosh et al. discloses disruptive events including opening or closing of a competing store that impacts sales or demand at the location (See page 58, page 60, column 1, page 62, column 1, which discuss effects of opening or closing stores).

Singh et al. discloses forecasting demand by applying forecasting techniques to historical demand data based on a disruptive event, such as external competitor events. Ghosh et al. discloses that the external competitor impact is the impact of opening or closing stores. It is well known in the art that stores open and close over time, and it is further well known in the marketing arts to consider competition within the market. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the competition of Ghosh et al. in the disruptive events of Singh et al. in order to more accurately predict customer demand based on disruptive competitor events. See paragraphs 17, 23, 28, and 86 of Singh et al.

13. Claims 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. 5,459,656) in view of Waller et al. (U.S. 2003/0195791).

As per claim 60, Fields et al. teaches disruptive events with demand implications (See figure 2A, column 3, lines 4-12 and line 60-column 4, line 20 and 30-42, column 7, lines 54-57, column 8, lines 11-20, wherein a disruptive event, such as a holiday, a sale, etc., is calendared using impact estimates, where the impact of these events is shown on models by altered demand curves. See column 9, lines 35-51. The calendaring is performed using start dates. See also column 10, lines 10-15, which talk about location specific values in the calendaring). However, Fields et al. does not expressly disclose the disruptive event representing cannibalization of sales or demand for a first item at a particular location by introducing a second item at the particular location.

Waller et al. discloses disruptive event representing cannibalization of sales or demand for a first item at a particular location by introducing a second item at the particular location (See paragraphs 17, 354, 356, which discloses the cannibalization of demand).

Fields et al. discloses forecasting demand by applying forecasting techniques to historical demand data. Fields et al accounts for events that will impact the estimates of sales. Waller et al. discloses competition between products causing cannibalization. It would have been obvious to one of ordinary skill in the art at the time of the invention to include inter-item competition in the disruptive events of Fields et al. in order to make more appropriate and accurate projections by including all situations that impact demand. See column 2, lines 15-20, column 5, lines 14-25, of Fields et al. See also paragraphs 17, 354, 356 of Waller et al.

14. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. 5,459,656) in view of Ghosh et al. ("Formulating Retail Location Strategy in a Changing Environment").

As per claim 61, Fields et al. teaches disruptive events with demand implications based on times and events (See figure 2A, column 3, lines 4-12 and line 60-column 4, line 20 and 30-42, column 7, lines 54-57, column 8, lines 11-20, wherein a disruptive event, such as a holiday, a sale, etc., is calendared using impact estimates, where the impact of these events is shown on models by altered demand curves. See column 9, lines 35-51. The calendaring is performed using start dates. See also column 10, lines 10-15, which talk about location specific values in the calendaring). However, Fields et al. does not expressly disclose that the disruptive event represents opening or closing of a competing store that impacts sales or demand at the location.

Ghosh et al. discloses disruptive events including opening or closing of a competing store that impacts sales or demand at the location (See page 58, page 60, column 1, page 62, column 1, which discuss effects of opening or closing stores).

Fields et al. discloses forecasting demand by applying forecasting techniques to historical demand data. Fields et al. specifically accounts for events that occur at specific starting times and will impact the estimates of sales. Ghosh et al. discloses the impacts of opening or closing stores. It is well known in the art that stores open and close over time, and it is further well known in the marketing arts to consider competition within the market. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the competition of Ghosh et al. in the disruptive events of Fields et al. in order to make more

appropriate and accurate projections by including all situations that impact demand. See column 2, lines 15-20, column 5, lines 14-25, of Fields et al.

Response to Arguments

15. Applicant's arguments with regards to Fields et al. (U.S. 5,459,656) with respect to claim 59 have been fully considered, but they are not persuasive. In the remarks, Applicant argues that (1) Fields et al. does not include logic for both a past and future disruptive event with respect to the calendar.

In response to argument (1), Examiner respectfully disagrees. Claim 59 recites maintaining “a calendar of past and future disruptive events that impacted or will impact demand for a particular item at a particular location, wherein the disruptive events have a start date and are either open-ended or have a distant end date that is appropriately modeled by a step impact on sales history or projected demand”. Therefore, the claim makes optional whether both past and future events are included in every instance of the calendar. Therefore, in the broadest reasonable interpretation of the claim, there may be two past events, two future, or a mixture of both. Regardless, Fields et al. does teach that impact estimates are both for disruptive events that already have taken place and are applied to sales history quantities used to project demand. See column 4, lines 60-67, column 8, lines 1-5, column 9, lines 1-15, and column 10, lines 50-67, which discloses that impact factors for the recent past are used to update the sales history quantities, as well as for disruptive events that have not yet take place are applied to adjust the projected demand. See also column 3, lines 54-66, column 4, lines 30-42, column 5, lines 1-7,

and column 8, lines 10-30, wherein the impact factors for an event, such as a holiday, are used to adjust demand from normally occurring.

16. Applicant's arguments with regards to Fields et al. (U.S. 5,459,656) in view of Ghosh et al. ("Formulating Retail Location Strategy in a Changing Environment") have been fully considered, but they are not persuasive. In the remarks, Applicant argues that (2) one of ordinary skill in the art would not select or understand Ghosh et al. or combine it with the teachings of Fields et al. in the retail field or production planning and (3) Examiner combined Fields et al. and Ghosh et al. using the claim as a blue print.

In response to argument (2), Examiner respectfully disagrees. As per MPEP 2141.03, the person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art may include: (A) "type of problems encountered in the art;" (B) "prior art solutions to those problems;" (C) "rapidity with which innovations are made;" (D) "sophistication of the technology; and" (E) "educational level of active workers in the field. In a given case, every factor may not be present, and one or more factors may predominate." In re GPAC, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995); Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc., 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986); Environmental Designs, Ltd. V. Union Oil Co., 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983).

Further, "A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d

1385, 1397 (2007). “[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* Office personnel may also take into account “the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at ___, 82 USPQ2d at 1396. < Further, the “hypothetical person having ordinary skill in the art’ to which the claimed subject matter pertains would, of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art.” *Ex parte Hiyamizu*, 10 USPQ2d 1393, 1394 (Bd. Pat. App. & Inter. 1988)

In the current application, examiner relied on Ghosh et al. to disclose disruptive events including opening or closing of a competing store that impacts sales or demand at the location. In assessing the level of a hypothetical person who has ordinary skill in the art, Examiner maintains that this hypothetical person would have encountered the problem of competition and competitors affecting their store’s sales in the fields of marketing and demand forecasting. Applicant has not presented any specific evidence showing why this is not the level of one of ordinary skill in the art, beyond discussing the examiner’s and the attorney’s backgrounds. Therefore, since Examiner has presented a *prima facie* obviousness, the burden is on the Applicant to provide evidence as to why one of ordinary skill in the art would not be able to comprehend an article concerning Retail Location Strategy when competitor stores are opening in proximity.

In response to argument (3) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into

account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

17. Applicant's arguments with regards to Fields et al. (U.S. 5,459,656) in view of Waller et al. (U.S. 2003/0195791) have been fully considered, but they are not persuasive. In the remarks, Applicant argues that (4) one of ordinary skill in the art would not select or understand Waller et al. or combine it with the teachings of Fields et al. in the retail field or production planning and (5) Examiner combined Fields et al. and Waller et al. using the claim as a blue print.

In response to argument (4), Examiner notes the discussion of MPEP 2141.03 above with respect to argument (2). In this instance, examiner relied on Waller et al. to disclose cannibalization of sales or demand for a first item at a particular location by introducing a second item at the particular location. In assessing the level of a hypothetical person who has ordinary skill in the art, Examiner maintains that this hypothetical person would have encountered the problem of cannibalization in the fields of marketing and demand forecasting when making decisions concerning the stores product mix, positioning, and lines, where one would consider whether or not sales of one item would affect sales of a second item. Applicant has not presented any specific evidence showing why this is not the level of one of ordinary skill in the art, beyond discussing the examiner's and the attorney's backgrounds. Therefore, since

Examiner has presented a prima facie obviousness, the burden is on the Applicant to provide evidence as to why one of ordinary skill in the art would not be able to comprehend a patent application discussing the concept of cannibalization.

In response to argument (5) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

18. Applicant's arguments with regards to claims 2-4, 12-26, 57-58, and 65-67 have been considered but are moot in view of the new ground(s) of rejection, as necessitated by amendment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is 571-272-6737. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

lwd
bvd

December 20, 2007

Beth Van Doren
BETH VAN DOREN
PRIMARY EXAMINER